

CLAIMS

1 1. A design support system for supporting design of a
2 manufacturing line constituted by combination of a plurality
3 of element types, said system comprising:

4 an element type database for storing information about
5 said element types beforehand;

6 an indication section which indicates to an operator in
7 a selectable manner said element types stored in said element
8 type database;

9 a selection section capable of selecting arbitrary element
10 types to be used for constituting said manufacturing line from
11 among said element types indicated by said indication section;

12 a manufacturing line information preparation section for
13 preparing information about said manufacturing line by means of
14 acquiring information about said element types stored in said
15 element type database on the basis of said element types selected
16 by said selection section; and

17 an output section capable of outputting information about
18 said manufacturing line prepared by said manufacturing line
19 information preparation section.

1 2. The design support system according to claim 1, further
2 comprising an element type determination section for determining
3 said element types or specifications of said element types on
4 the basis of said element types selected by said selection section,
5 wherein

6 said manufacturing line information preparation section
7 prepares information about said manufacturing line on the basis
8 of said element types or said specifications of said element
9 types determined by said element type determination section.

1 3. The design support system according to claim 2, wherein
2 said element type database stores determination information in
3 association with said element types, and said element type
4 determination section determines said element types or
5 specifications of said element types on the basis of said
6 determination information.

1 4. The design support system according to claim 1, wherein
2 said element type database stores manufacturing steps (processes
3 and devices) employed in said manufacturing line, in association
4 with element types relevant to said manufacturing steps.

1 5. The design support system according to claim 3, wherein
2 said element type database stores manufacturing steps (processes
3 and devices) employed in said manufacturing line, in association
4 with element types relevant to said manufacturing steps.

1 6. The design support system according to claim 4, wherein
2 said element type database hierarchically manages said
3 manufacturing steps.

1 7. The design support system according to claim 5, wherein

2 said element type database hierarchically manages said
3 manufacturing steps.

1 8. The design support system according to claim 1, further
2 comprising a component database which stores information about
3 components constituting said element types.

1 9. The design support system according to claim 4, further
2 comprising a component database which stores information about
3 components constituting said element types.

1 10. The design support system according to claim 6, further
2 comprising a component database which stores information about
3 components constituting said element types.

1 11. The design support system according to claim 8, wherein
2 said component database performs sorting and extraction of
3 information about said components registered in said component
4 database while taking predetermined conditions as a key.

1 12. The design support system according to claim 9, wherein
2 said component database performs sorting and extraction of
3 information about said components registered in said component
4 database while taking predetermined conditions as a key.

1 13. The design support system according to claim 10, wherein
2 said component database performs sorting and extraction of

3 information about said components registered in said component
4 database while taking predetermined conditions as a key.

1 14. The design support system according to claim 8, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 15. The design support system according to claim 9, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 16. The design support system according to claim 10, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 17. The design support system according to claim 11, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 18. The design support system according to claim 12, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 19. The design support system according to claim 13, further
2 comprising information about an engineering drawing of said
3 components in association with said components, wherein said
4 output section outputs information about an engineering drawing
5 of said components.

1 20. The design support system according to claim 1, further
2 comprising: information about the appearance of said element
3 types; and

4 an appearance information preparation section for
5 preparing information about the appearance of said manufacturing
6 line on the basis of information about the appearance of said
7 element types, wherein

8 said output section outputs information about the
9 appearance of said manufacturing line prepared by said appearance
10 information preparation section.

1 21. The design support system according to claim 1, further
2 comprising:

3 a manufacturing line information storage section which
4 can store a plurality of pieces of information about said

5 manufacturing line prepared by said manufacturing line
6 information preparation section and which can extract and arrange
7 said plurality of pieces of information about said manufacturing
8 line under arbitrary conditions on the basis of details of said
9 information about said manufacturing line; and
10 a line candidate indication section for indicating said
11 extracted and arranged information about said manufacturing line
12 as a candidate for said manufacturing line.

1 22. The design support system according to claim 1, further
2 comprising:

3 a condition input section which enables input of conditions
4 pertaining to preparation of information about said manufacturing
5 line to be prepared by said manufacturing line information
6 preparation section, wherein

7 said manufacturing line information preparation section
8 selectively uses said plurality of element types on the basis
9 of information about said element types stored in said element
10 type database, thereby preparing information about said
11 manufacturing line satisfying said conditions input by said
12 condition input section.

1 23. The design support system according to claim 1, further
2 comprising:

3 a data exchange section capable of exchanging data with
4 an external information processing system.

1 24. The design support system according to claim 23, wherein
2 said external information processing system is a system
3 for managing manufacturing costs of said manufacturing line;
4 said data exchange section acquires from said external
5 information processing system information about manufacturing
6 costs of said manufacturing line; and
7 said output section outputs said information about said
8 manufacturing line prepared by said manufacturing line
9 information preparation section and said information about
10 manufacturing costs of said manufacturing line acquired by said
11 data exchange section in such a manner that said pieces of
12 information can be compared with each other.

1 25. The design support system according to claim 23, wherein
2 said external information processing system is a purchasing
3 system, and said data exchange section transfers, to said
4 purchasing system, said information about said manufacturing
5 line prepared by said manufacturing line information preparation
6 section.

1 26. The design support system according to claim 24, wherein
2 said external information processing system is a purchasing
3 system, and said data exchange section transfers, to said
4 purchasing system, said information about said manufacturing
5 line prepared by said manufacturing line information preparation
6 section.

1 27. The design support system according to claim 1, wherein
2 said manufacturing line information preparation section computes
3 at least the number of components required to constitute said
4 manufacturing line as information about said manufacturing line
5 on the basis of said information about components constituting
6 said element types stored in said component database.

1 28. The design support system according to claim 27, wherein
2 said data exchange section transfers at least the number of
3 components required to constitute said manufacturing line to
4 said external information processing system.

1 29. The design support system according to claim 1, wherein
2 information pertaining to said element types stored in said
3 element type database comprises at least any of a manufacturing
4 unit price, a delivery time, accuracy, a processing time, visual
5 information, and comment, all pertaining to said element types.

1 30. The design support system according to claim 1, wherein
2 information about said manufacturing line is information
3 pertaining to performance or a manufacturing cost of said
4 manufacturing line.

1 31. A design support method for supporting design of a
2 manufacturing line constituted by combination of a plurality
3 of element types, said method comprising the steps of:
4 (a) indicating to an operator in a selectable manner said

5 element types stored in an element type database storing
6 information about said element types beforehand;
7 (b) selecting arbitrary element types to be used for
8 constituting said manufacturing line from among said element
9 types indicated in said step (a);
10 (c) preparing information about said manufacturing line
11 by means of acquiring information about said element types stored
12 in said element type database on the basis of said element types
13 selected in said step (b); and
14 (d) outputting information about said manufacturing line
15 prepared in said step (c).

1 32. A computer-readable recording medium which stores a
2 design support program for supporting design of a manufacturing
3 line constituted by combination of a plurality of element types,
4 said program instructing a computer to perform the steps of:
5 (a) indicating to an operator in a selectable manner said
6 element types stored in an element type database storing
7 information about said element types beforehand;
8 (b) selecting arbitrary element types to be used for
9 constituting said manufacturing line from among said element
10 types indicated in said step (a);
11 (c) preparing information about said manufacturing line
12 by means of acquiring information about said element types stored
13 in said element type database on the basis of said element types
14 selected in said step (b); and
15 (d) outputting information about said manufacturing line

16 prepared in said step (c).